

Everything you need...

Now
extended
until the end
of 2012!

STRONG BRITISH BRAND
RELIABILITY
PEACE OF MIND

GREENER
SOLUTIONS
PERFORMANCE

**SPACE
SAVING**

EASY TO USE

SERVICE

EFFICIENCY

QUALITY

WARMTH

SUSTAINABLE

ENERGY

SAVING

PROVEN



...backed up with a 7 year guarantee

Purchase any Greenstar CDi, Si or Ri boiler from a Worcester Accredited Installer
between 1st July and 31st December 2012 to guarantee you
7 years' peace of mind.

Every single Greenstar gas-fired condensing boiler has been
awarded a Which? Best Buy rating.

Terms and conditions apply.

Until
31st December 2012
**7 Year
Guarantee**
with every
Greenstar
CDi, Si or Ri
boiler*

*Purchased & installed between
1st July &
31st December 2012.
Terms and conditions apply.



 **WORCESTER**
Bosch Group
Accredited Installer

www.worcester-bosch.co.uk

7 year guarantee* on all Greenstar CDi, Si or Ri boilers purchased and installed between 1st July and 31st December 2012

By choosing a high efficiency Greenstar condensing boiler you're investing in proven Worcester quality and reliability. Today's Greenstar gas-fired range is greener and cleaner than ever, with lower NOx and CO2 levels†.

And now, for a limited period, we're backing our Greenstar CDi, Si and Ri boilers with a free 7 year guarantee.

Qualifying Models

Greenstar Si Combi

Greenstar CDi Combi

Greenstar CDi System

Greenstar CDi Regular

Greenstar FS CDi Regular

Greenstar Highflow CDi Combi

Greenstar Ri Regular

Terms and conditions

*All Greenstar CDi, Si or Ri condensing boilers are valid for this promotion. The qualifying boilers must be serviced annually for the additional 2 year guarantee and must be purchased and installed between 1st July 2012 and 31st December 2012 and registered within 30 days with Worcester, Bosch Group. Offer only available to selected Worcester Accredited Installers. Offer does not apply to contracts. This offer cannot be used in conjunction with any other Worcester, Bosch Group offer. Offer applies to UK mainland, Northern Ireland, Isle of Man and the Republic of Ireland only.

The decision of Worcester, Bosch Group is final.

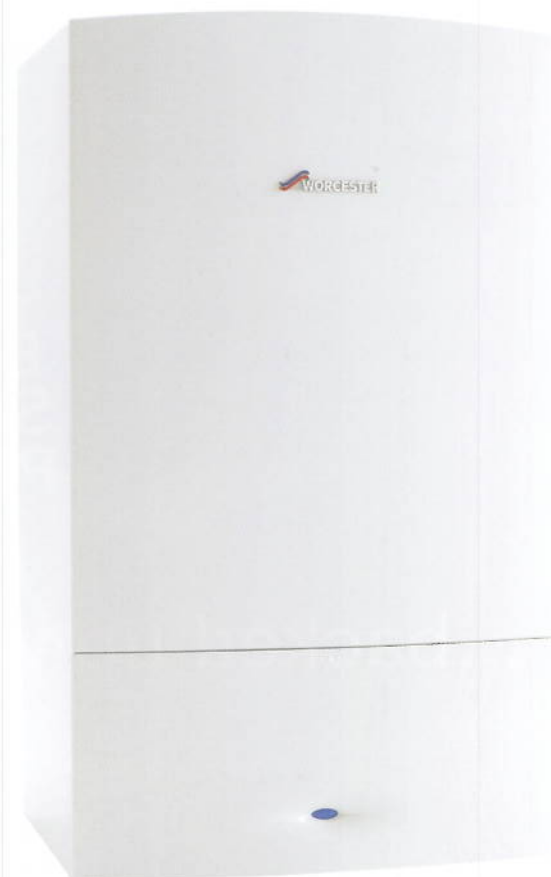
†Applies to the Greenstar i System and Si gas-fired boilers only.

Worcester, Bosch Group is a brand name of Bosch Thermotechnology Ltd.

This leaflet is accurate at the date of printing, but may be superseded and should be disregarded if specification and/or appearances are changed in the interest of continued improvement. The statutory rights of the consumer are not affected. E&OE.



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 **WORCESTER**
Bosch Group
Accredited Installer

www.worcester-bosch.co.uk

Greenstar gas-fired condensing boilers from Worcester.

Making a difference to your life,
your fuel bills and the environment.



 **WORCESTER**
Bosch Group

Dedicated to heating comfort

The comfort of knowing that every Worcester Greenstar boiler can save you money.



Worcester is a market leader in high efficiency, condensing boiler technology and all of our products are designed to deliver heating and hot water comfort.

Our Greenstar range of gas-fired condensing boilers can help reduce your fuel bills and your carbon footprint. We are also leading the way in environmentally friendly heating and hot water production through our commitment to developing innovative renewable energy solutions.

All of the boilers in the brochure are available as natural gas or LPG models.

Inside this brochure you will find all you need to know about the Worcester options available and how we can help make it easy for you and your qualified installer to find the right boiler for your home and lifestyle.



In the 2012 survey of Which? members who own a boiler, no other brand beat the Worcester Greenstar range of gas-fired condensing boilers for efficiency and reliability for the second year running. This is why all of the boilers tested from the Greenstar range qualify to be a Which? Best Buy.

In addition to receiving 23 Best Buy recommendations, the latest Which? report also looked at boiler servicing contracts, where the Worcester, Bosch Group brand came top for the fifth consecutive year.

Call 0845 313 0058 or visit www.worcester-bosch.co.uk to find out more.

Contents	Page
Wherever you live, Worcester keeps it feeling like home.	4
Worcester. Trusted for half a century.	5
If your heating system is over 10 years old, it's not as efficient as it could be.	6
Which type of condensing boiler is right for you?	8
Heating control options.	16
Greenfloor underfloor heating.	20
Greenstar gas-fired boiler technical overview.	22
Worcester. At your service.	23
Even more ways of providing heating and hot water comfort to you.	24
We're as committed to the environment as we are to our customers.	26

Wherever you live, Worcester keeps it feeling like home.

It only feels like home if it's warm and comfortable
Which is why the boiler you choose is so important.

With Worcester, you have a boiler you can rely on year in, year out. As part of the Bosch Group, our products are designed and built to exacting standards, and constructed with only the highest quality materials, to provide the levels of quality and reliability which are synonymous with the Bosch name throughout the world. Every boiler is rigorously tested before it leaves the factory, to ensure that it is fit for everyday use and meets our customer requirements.

So with annual maintenance, a Worcester condensing boiler will provide you and your family with warmth, comfort and all-important peace of mind.



Product testing at Worcester

The Robert Bosch Foundation

As part of the Bosch Group, a percentage of the profits made by Worcester is donated to charities and good causes by the Robert Bosch Foundation, a non-profit charitable trust. 92% of Bosch Group shares are held by the Robert Bosch Foundation, helping the organisation as a whole to focus on long term activities, rather than concentrating on share dividends. It means that you won't see any companies associated with the Bosch Group on any stock markets. Since its founding in 1964, the Robert Bosch Foundation has spent £757 million on funding for social improvement initiatives.

Worcester. Trusted for half a century.



Worcester is the choice of millions of quality and value-conscious households all over the UK – and it's the choice of the heating industry too.

And a recent survey revealed that 9 out of 10 professional installers would choose Worcester for their own homes*. All of which gives you the reassurance of knowing that when you invest in a Worcester product, its quality is endorsed by the professionals.

Quality is the bedrock of the Worcester brand

Since 1962, when Worcester pioneered domestic oil-fired boilers, the company's commitment to excellence hasn't changed. And that commitment has only strengthened

since Worcester became a part of the Bosch Group – one of the world's leading names in innovative technology.

Today, many years and millions of boilers later, Worcester is a market leader in domestic heating and hot water appliances, employing over 1,800 people at our headquarters and manufacturing plants in Worcester and at Clay Cross in Derbyshire – including a nationwide network of over 300 directly employed Service Engineers and over 40 technical advisors based at Worcester.

All of this makes Worcester a name that stands for reliability, quality, efficiency and value for money; a name you can trust.

* Source: Worcester Customer Satisfaction Survey



Worcester, Bosch Group headquarters in Worcester

If your heating system is over 10 years old, it's not as efficient as it could be.



Why should I consider changing my boiler?

It's surprising but true; older boilers can be as little as 60% efficient and even many comparatively modern boilers are still only 70-75% efficient. Compare that to Worcester

	SEDBUK Range
A	90% and above
B	86% – 90%
C	82% – 86%
D	78% – 82%
E	74% – 78%
F	70% – 74%
G	Below 70%

Greenstar condensing boilers which are SEDBUK*** A-rated for their efficiency and more than 90% efficient.

Put another way, with our condensing boilers more than 90p of every £1 you spend on fuel for your boiler is used effectively for your heating and hot water.

What makes a condensing boiler so efficient?

Condensing boilers work by recovering the waste heat which is expelled through the flue system of a non-condensing boiler and passing it through a second heat exchanger where it extracts additional heat*.

This is why it makes such good sense to switch to an award-winning Worcester boiler. With a boiler that's 10 years old or more, which doesn't have the benefit of today's condensing technology, as much as 30%** spent on fuel for your heating and hot water is wasted. It could make a big difference to your household energy bills, saving you money and helping to reduce your carbon footprint at the same time.

Combine a new Greenstar boiler with the latest in digital and intelligent heating controls and you can make your money go even further.

Measure	Annual saving (£/yr)	CO ₂ saving a year
Condensing boiler & heating controls upgrade	Around £300	Up to 1,100kg

Source: Energy Saving Trust

Changes to the Building Regulations in recent years mean that in virtually all new and replacement boiler installations† a high efficiency condensing boiler must be used.

Your home's energy rating

The Energy Performance Certificate (EPC) is required by anyone selling a home. It rates a home's energy efficiency, giving potential buyers an idea of how green, or how costly, their new home will be. It is widely recognised that installing a high efficiency condensing boiler will improve your home's rating.

One more way to help improve the energy efficiency rating of your home, and to significantly reduce your fuel bills and carbon dioxide emissions, is to install a solar water heating system. All Greenstar regular and system boilers can be used with a Worcester Greenskies solar water heating system to generate your hot water (see page 24). Depending on the positioning of the solar panels, they could provide up to 60%†† of your annual hot water free of charge from a clean, renewable source of energy. Look for the ☀️ symbol to indicate boilers which are solar compatible.

Worcester Energy Houses

Worcester's Energy Houses are real-life case studies which show the difference that switching to Worcester products can make to your bills, your lifestyle and the environment.

You can see how we could help you reduce your energy consumption by visiting www.worcester-bosch.co.uk/energyhouses

* When operating in a condensing mode a visible plume is generated from the flue terminal. Consideration should be given to this when siting the boiler. Further details can be found within our Technical and Specification brochures on condensing boilers
** Source: Energy Saving Trust † Exceptions can apply †† Energy Saving Trust (Publication CE102) *** 2005 SEDBUK database

Which type of condensing boiler is right for you?

It's so simple to make your mind up

Because every household is different – the heating and hot water needs of someone living in an apartment will be very different from those with a large family home – our Greenstar range is available in three boiler types: ‘combi’, regular and system.

Each of the three types of boiler delivers all the benefits of high efficiency technology, so you just need to weigh up which suits your needs, the size of your home and your lifestyle and it's easy to come to a decision on what's best for you.

The easy way to choose

It's important that you find out as much as you can before you decide on the boiler that's right, so why not try the helpful ‘find a boiler’ tool you'll find on our website at www.worcester-bosch.co.uk/findaboiler

Alternatively you can call our customer helpline on **0844 892 3366**. It is also essential that you consult your Gas Safe registered engineer or installer to help advise you on what boiler is most suitable for your property.

The lifetime of your boiler

All Worcester Greenstar gas-fired boilers are engineered to last – meaning you can think ahead about how your heating and hot water needs may change. Whether you have a growing family or are thinking about adding solar water heating in the future, you can choose the right Greenstar boiler now, secure in the knowledge that it will still be performing if your circumstances change.

Guarantees and spare parts



All Worcester Greenstar gas-fired boilers come with a 2 year* guarantee as standard and a 10 year* guarantee on the primary heat exchanger.



For added peace of mind we also hold spares for our boilers for at least 10 years after they have been discontinued.

What is a ‘combi’ boiler?

A ‘combi’ or combination boiler is a high efficiency water heater and a central heating boiler combined (hence the name) within one compact unit. Water is heated directly from the mains eliminating the need for a hot water storage cylinder and the associated cold water storage cistern in the roof space. Because your hot water is delivered to your taps or shower at mains pressure it's very convenient and can save on your hot water costs. As an added benefit, showers from a ‘combi’ can be comparable with the performance of a power shower.

So a ‘combi’ can also give you a little extra room to play with, making it ideal for a flat or a bungalow with very little or no roof space and it's also the right choice if you want to use your loft space for a room conversion. Another ‘combi’ benefit is that it can generally save you money on installation time and costs as well installation materials.

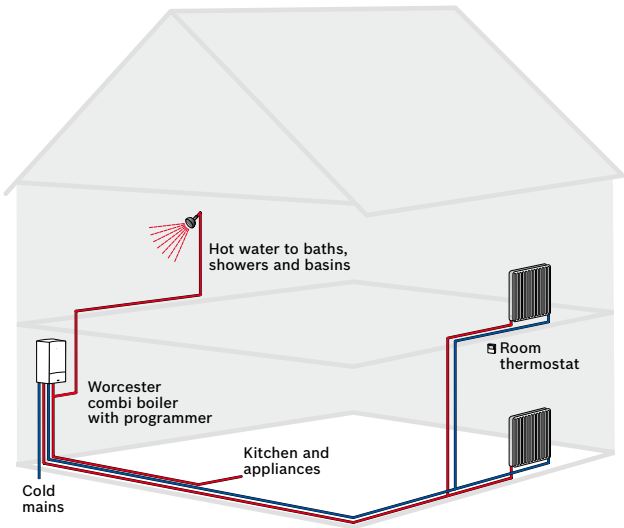
‘Combi’ boilers are so popular that they account for two out of every three new domestic boilers installed in Britain every year.

What is a regular boiler?

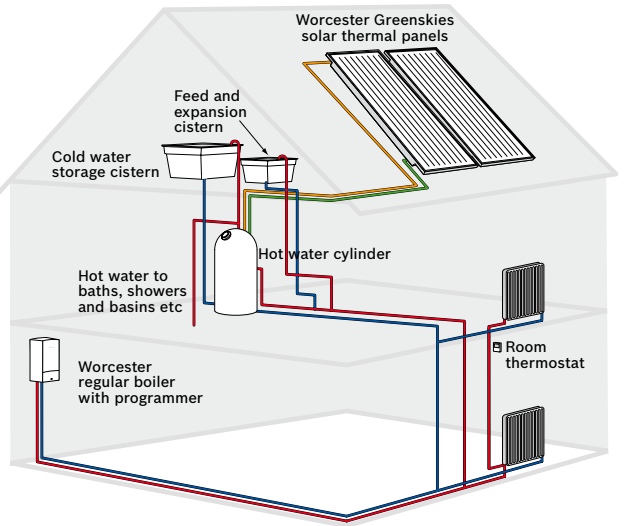
Regular boilers – sometimes referred to as traditional or conventional boilers – are suitable for homes that already have a traditional heating and hot water system that requires a separate hot water cylinder. Regular boilers also require a cold water storage cistern to feed the hot water cylinder and an expansion cistern in the loft. They are a good option for any home where a large volume of stored hot water is required e.g. homes with two or more bathrooms, or in areas where the water pressure is low. Regular boilers are compatible with solar water heating systems to bring you the added benefits of environmentally friendly hot water and further cost savings.

What is a system boiler?

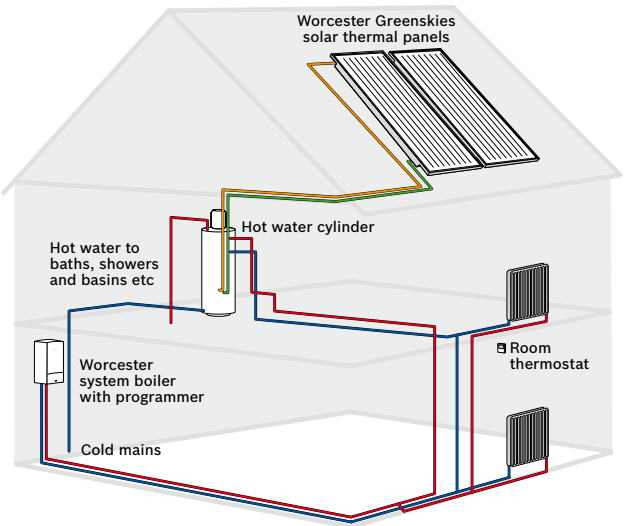
Both a system boiler and a regular boiler work on the principle of stored hot water – but a system boiler is different in two important ways. Firstly, many of the components of the heating and hot water system are built into the boiler itself, making it quicker and easier to install. Secondly, it doesn't need a feed and expansion vessel in the loft. There are two kinds of cylinder which this type of system may have – a mains pressure hot water cylinder or a low pressure hot water cylinder. They are also compatible with solar water heating systems to bring you the added benefits of environmentally friendly hot water and reduced hot water and heating costs.



Combi boiler layout



Regular boiler layout and solar water heating system



System boiler layout and solar water heating system (System boiler with unvented hot water cylinder)

Considerations for choosing a new boiler

Consideration	Most suitable boiler
You want to use your loft space for a room conversion or other purpose	Combi or System (unvented cylinder)
You live in a flat or bungalow (i.e. have very little or no roof space)	Combi or System (unvented cylinder)
Your home has more than 2 bathrooms	Regular, System or floor standing Combi
Your mains water pressure is low	Regular or System
You want to replace an old boiler to improve an existing conventional central heating system	Combi, Regular or System
There is a need to have hot water available on tap without waiting for it to heat up	Combi
If you need to discuss your boiler requirements, call our customer helpline on 0844 892 3366	



Greenstar Si condensing combi boiler

Appliance shown with pipework behind trunking



Greenstar condensing combi boiler range.



Greenstar 24i and 28i Junior series

Central heating outputs: Both models – 24kW

Hot water flow rates: 9.8 & 11.4 litres per minute* @ 35°C temperature rise

- Our entry level wall-mounted combi boiler range for smaller 1 bathroom properties
- Compact in size, i Junior combis can be installed in a number of locations and can be used with a choice of mechanical, digital and wireless programmers.



Greenstar 25Si and 30Si series

Central heating outputs: Both models – 24kW

Hot water flow rates: 10.2 & 12.3 litres per minute* @ 35°C temperature rise

- Si combis are also suitable for apartments and small to medium sized 1 bathroom properties, and offer slightly higher hot water flow rates than the i Junior series
- Si combis allow the hot water temperature to be controlled and can be used with a wider range of optional controls
- Si combis can also be installed in a variety of locations, including kitchens, utility rooms, bathrooms, airing cupboards, lofts or garages.



NEW

Greenstar 29CDi Classic, 34CDi Classic, 38CDi Classic & 42CDi Classic series

Central heating outputs: All models – 30kW

Hot water flow rates: from 12.3 to 17.2 litres per minute* @ 35°C temperature rise

- Our 'top of the range' award-winning wall-mounted combi range has just got better, CDi Classic appliances offer a wide choice of operating features for greater user comfort and economy with their higher central heating outputs and increased hot water flow rates
- The higher output CDi Classic combis can be suitable for larger two bathroom properties
- CDi Classic appliances are unique in that they condense in both heating and hot water modes for even greater efficiency and fuel savings. They also feature a modulating pump which reduces electricity used by the pump by up to 30%
- An extensive choice of controls is available for use with CDi Classic combis, including sophisticated intelligent controls which provide the ultimate in user convenience, performance and economy.



Greenstar Highflow 440CDi & 550CDi series

Central heating outputs: 29.2 & 30.6kW

Hot water flow rates: 20 & 25 litres per minute** @ 35°C temperature rise

- A choice of two floor-standing combis which have been developed specifically for larger two bathroom properties where there is a heavier requirement for heating and hot water
- Highflow CDi combis incorporate many of the operating features of our wall-mounted combis and can be used with mechanical, digital, wireless and intelligent controls.

Please see pages 16-19 for compatible optional controls

We always recommend you consult a qualified Gas Safe installer prior to choosing your boiler.

* Provided adequate mains pressure is available

* Dependent on volume of hot water being delivered to taps. Refer to your installer



Greenstar i System condensing system boiler

Appliance shown with pipework behind trunking

Greenstar condensing system boiler range.



Greenstar 12i, 15i, 18i & 24i System series

Central heating outputs: 12, 15, 18 & 24kW

- With their compact, space-saving dimensions i System appliances are a good option for small to medium-sized properties with a heating system which includes stored hot water
- A choice of optional digital controls is available for use with all models in the series*.



Greenstar 30CDi System

Central heating output: 30kW

- Our top performing system boiler for bigger properties with a larger heating requirement
- For added user comfort and economy the 30CDi System can be used with a choice of digital controllers
- One button holiday mode* and frost protection
- When combined with our new generation of intelligent controls and Greenskies solar further savings are achieved.

Greenstar 30CDi System fascia with optional TD200 plug in controller



Please see pages 16-19 for compatible optional controls

We always recommend you consult a qualified Gas Safe installer prior to choosing your boiler.

* Provided the optional internal diverter valve is used



Greenstar FS CDi condensing regular boiler

Greenstar condensing regular boiler range.



Greenstar Ri series

Central heating outputs: 12, 15, 18 & 24kW

- The smallest of our condensing appliances (they can be installed in a standard kitchen cabinet – see page 7 for example)
- There is an Ri appliance suitable for small, medium and larger properties
- Ri appliances have a fascia-mounted heating temperature control knob and neon operational status indicators.



Greenstar CDi Regular series

Central heating outputs: 30 & 40kW

- Impressive heating outputs make CDi Regular boilers an excellent choice for installation in larger properties
- Our top performing wall-mounted regular boiler with fascia-mounted heating temperature control knob and operational status display.



Greenstar FS CDi Regular series

Central heating outputs: 30 & 40kW

- FS CDi Regular appliances are the ideal choice when replacing an older floor-standing boiler in a larger property or when a wall-mounted boiler is not an option
- The FS CDi Regular is compatible with the new flexible flue system which enables the flue to be routed through an existing brick chimney
- FS CDi Regular appliances have a fascia-mounted heating temperature control knob and operational status display.

We always recommend you consult a qualified Gas Safe installer prior to choosing your boiler.

Efficiency that today's energy-conscious homeowner demands.

Over the last few years boilers have become increasingly efficient and, with condensing boilers already offering typical efficiencies of over 90%, there is little scope for significant developments in boiler efficiency.

But the one area of the system where we can help improve performance even further is in the controls.

More effective controls can improve the overall performance of your heating system, dramatically reducing the amount of fuel you use – and the amount you pay.

Control options

Worcester can offer you three different types of control for use with 'combi' and system boilers. These range from simple-to-operate mechanical timers and more sophisticated digital programmers and room thermostats, right up to a new generation of intelligent controls.

Whichever you choose you can rest assured that it is designed to be easy-to-use to make sure you get the benefit of being in full control of your heating and hot water.

For further information on each of these controls please visit www.worcester-bosch.co.uk

Heating controls – what are the differences?

The majority of heating systems have at least two controls: a time clock or programmer and room thermostat. In fact, this is the minimum level of electrical controls specified by the Building Regulations for the installation of combi boilers and is a legal requirement.

- A **timer or programmer** operates the heating system to turn on for set periods of time. Dial and digital controls can be either wall-mounted near to the boiler or attached to the fascia panel of the boiler. It will take at least 30 minutes for your home to reach the desired temperature when the boiler fires up, depending on insulation levels and the outside temperature. The main difference between the two controls is a timer will operate the system at the same times every day whilst a programmer allows different heating times for different days of the week to suit your lifestyle.
- A **room thermostat** controls the air temperature and is usually positioned in the hall or landing. The thermostat can be analogue or digital. It should be sited away from direct sunlight and clear of curtains and furniture. As a guideline, your thermostat should be set between 18°C-21°C for comfort temperature and 10°C-12°C for economy temperature.
- A **programmable room thermostat** allows you to programme the temperature levels to alter according to different times of the day and night. When programmed correctly this type of control prevents the system having to heat the house from a "cold start". The control always maintains a temperature within the property (as decided by the user). This ensures that the boiler is only ever "topping up" the temperature in the home.



Mechanical timers

MT10 mechanical timer (for use with all combi models)

- The simplest Worcester control device
- Analogue clock for setting heating time periods.

MT10RF mechanical RF thermostat (for use with all combi models)

- Analogue display for setting comfort and economy time periods and temperature
- Receiver is activated remotely by radio frequency – requires no wiring
- Simple installation
- No need for a separate room thermostat.

Digital and wireless programmers and room thermostats

DT20 twin channel digital programmer (for use with all combi and system models)*

- Plugs into the boiler fascia panel and is pre-set to current time, date and day
- Adjusts automatically in line with British summer time
- 3 separate time periods for both heating and hot water
- Use either the built in pre-set programmes, or choose your own settings.

DT20RF digital RF thermostat with twin channel programmer (for use with all combi and system models)*

- Features simple set-up
- Set up to 3 different time periods a day
- Room thermostat provides the temperature control
- Benefits from no wiring required
- Twin-channel facility times the 'keep hot' function.

DT10RF digistat (for use with all combi and system models)*

- 24-hour programmable room thermostat
- Set different temperatures for up to 6 different time periods.
- No separate room thermostat is required
- Benefits from no wiring required
- Complies with Buildings Regulations Best Practice.



* System boilers must use the optional internal diverter valve



DT10RF optimiser (for use with Greenstar Si and CDi Classic combi and system boilers only)*

- Sophisticated 7-day energy-saving device with the same features as the DT10RF digistat
- Optimum start – calculates the time needed to activate the boiler to precisely achieve the required temperature at the required time each day
- Set different temperatures for up to 6 different time periods for each day of the week
- As a radio frequency device, it offers the benefits of no wiring
- No separate thermostat necessary.



TD200 text display (for use with Greenstar CDi Classic combi models only)

- Advanced plug-in 7-day programmer
- Features automatic summer-time/winter-time changeover
- Full easy-to-use text display
- Set 3 on-off periods per day
- Effectiveness is further enhanced by the RT10 room thermostat
- Can be positioned away from the boiler with optional wall mounting socket.



RT10 room thermostat (for use with Greenstar CDi Classic combi models only)

- A hard wired optimising room temperature controller
- Digital display for use with the TD200.

Intelligent controls



FR10 intelligent room thermostat (for use with Greenstar i System, Greenstar Si and Greenstar CDi Classic combi and system models too)*

- Intelligent room thermostat that enables load compensation
- Offers further energy savings compared to standard on/off controls.
(Load compensation feature means that, rather than just switching the boiler on and off, it will adjust the flow temperature of the central heating water in line with set heating temperature requirements. The smaller the difference between the actual temperature and the set-point temperature, the lower the flow temperature from the boiler.)



FR110 programmable room thermostat (for use with Greenstar i System, Greenstar Si and Greenstar CDi Classic combi and system models too)*

- Intelligent programmable room thermostat
- Load compensation for heating and time control of hot water systems
- Like the FR10 but with the added benefit of built-in programming
- Six weekly heating and hot water programmes, with six switching points per day.



FW100 weather compensation controller (for use with Greenstar i System, Greenstar Si and Greenstar CDi Classic combi and system models too)*

- Weather compensation controller
- Anticipates changes in heating demand in relation to external temperatures
- Comprises a programmable indoor unit and an external sensor
- The indoor unit can be fascia mounted or wall-mounted remotely
- Factory-set heat curves for use with radiators, underfloor heating and fan convectors.



ISM1 intelligent solar module*

- The ISM1 integrates a solar heating system with the FW100 or FR110.
- It enables the hot water system to take heat from the solar panels when appropriate or use the boiler
- Ensures the user gains maximum benefit from solar heating.

Control

Control	Type		Mount		Features										Electrical			Boiler Type					
	Mechanical	Digital	Intelligent	Fascia mounted	Wall mounted	Time Control				Temperature Control						Connection Type			Combination			System*	
						Central heating	Hot water	24 hour	7 day	Auto switch – BST/GMT	Room thermostat	Programmable room thermostat	Optimum start	Boiler flow temp compensation	Plug in	Radio frequency	Hard wired	i Junior	Si	CDi Classic	Highflow CDi	i System	CDi System
MT10	•			•		•		•						•			•	•	•	•			
MT10RF	•			•	•	•		•				•		•	•		•	•	•	•			
DT20		•		•		•	•		•					•			•	•	•	•	•	•	
DT20RF		•		•	•	•	•		•	•				•	•		•	•	•	•	•	•	
DT10RF digistat		•		•	•	•	•		•			•		•	•		•	•	•	•	•	•	
DT10RF optimiser		•		•	•	•	•		•			•	•	•	•			•	•	•		•	
TD200		•		•	•	•	•		•	•				•		•			•	•			
RT10		•			•							•	•			•			•	•			
Intelligent system package		•			•	•	•		•			•	•			•						•	
FR10			•		•					•						•		•	•	•	•	•	
FR110			•		•	•	•		•			•	•	•		•		•	•	•	•	•	
FW100			•	•	•	•	•		•			•		•	•	•		•	•	•	•	•	
ISM1			•		•											•					•	•	

* All compatible controls must be used with optional internal diverter valve

Intelligent controls



Greenfloor underfloor heating – energy efficient heating beneath your feet.

Whether you are updating your existing heating system or are embarking on a self-build project, Worcester Greenfloor heating could be the perfect solution for your home. Acting as efficient low-level radiators, a Greenfloor underfloor heating system uses a heated water filled pipe buried under the floor to deliver heat energy evenly into each room, gently warming the living space through a combination of radiant heat and heat conduction. As it is the entire floor area in a room that provides the heat, the actual temperature needed to heat it is much lower than with a traditional radiator system, eliminating any of those annoying cold spots around the room.

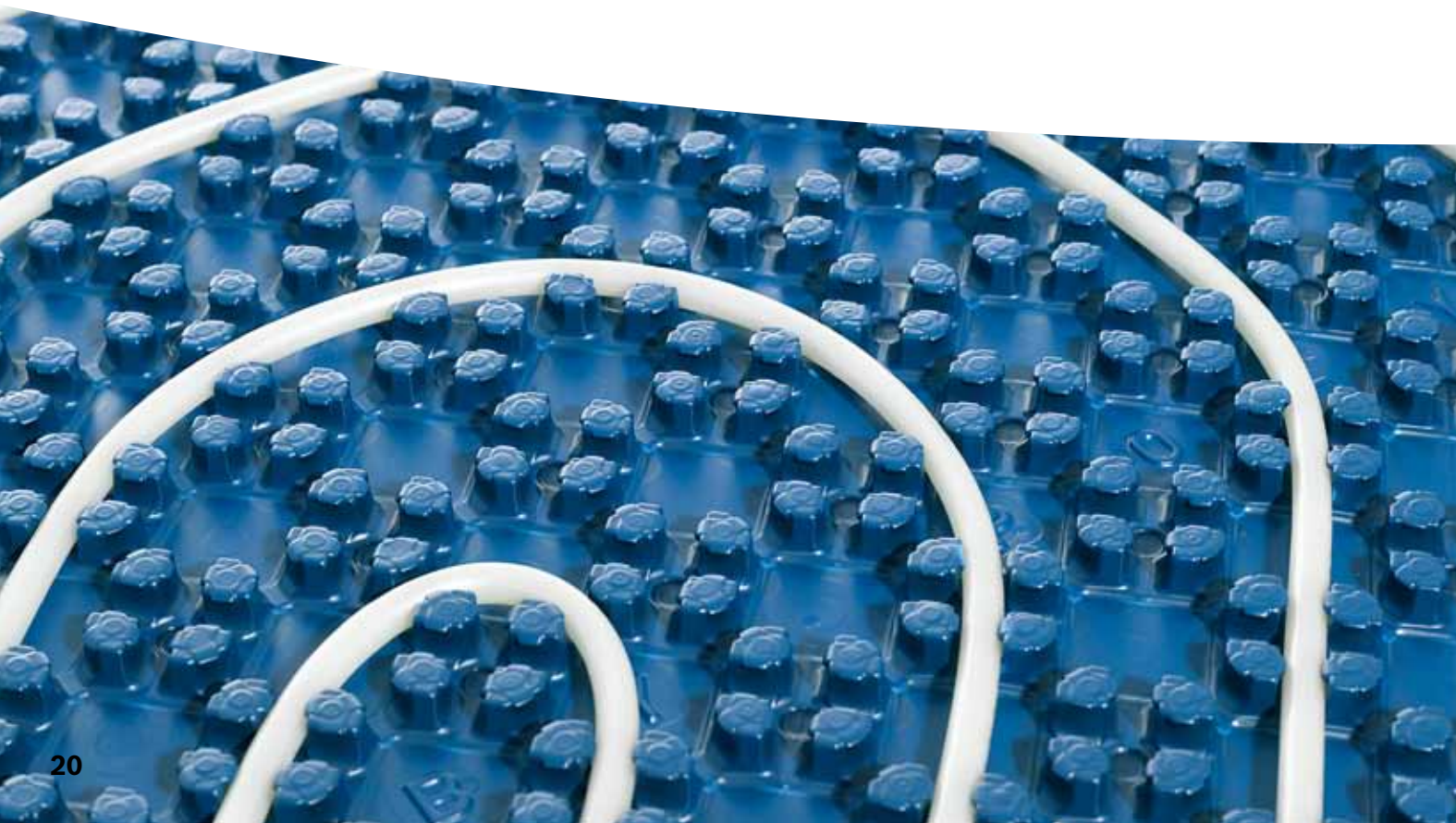
Greenfloor is suitable for use throughout the home and with any type of floor covering from tiles to carpet. The benefits do not stop there. Greenfloor is low maintenance and in a modern, well insulated home, can even act as the primary heat source, replacing the need for radiators completely and freeing up wall space so there are no restrictions on where you can put your furniture.

Maximum warmth from lower temperatures

Research shows that an even heat rising from the floor providing maximum warmth to the feet and cooler but more comfortable temperatures at head height are favourable to the output of a traditional radiator system where the maximum temperature is at ceiling height and the lowest is at floor level. There are also additional health benefits, as underfloor heating provides radiant heat and doesn't rely on convection like traditional radiators. As a result, the amount of dust circulated around the room will be considerably less, providing cleaner air.

Greenfloor features and benefits:

- Energy efficient – can offer savings on fuel bills of 30% when used with a Greenstore ground source heat pump
- Can also be used with Greenstar gas, LPG and oil boilers and Greensource air to water heat pumps
- Can be used throughout the home and with any type of floor covering
- Suitable for new properties and refurbishments
- Reduces dust compared with a conventional radiator system
- Frees up wall space
- Low maintenance.



The Greenstar condensing gas-fired boiler range.
Technical specification and features overview.

Feature

Feature	REGULAR								SYSTEM					COMBINATION									
	12Ri	15Ri	18Ri	24Ri	30CDi Conventional	40CDi Conventional	FS 30CDi	FS 42CDi	12i System	15i System	18i System	24i System	30CDi System	24i Junior	28i Junior	25Si	30Si	29CDi Classic	34CDi Classic	38CDi Classic	42CDi Classic	Highflow 440CDi	Highflow 550CDi
Wall hung (W) Floor standing (F)	W	W	W	W	W	W	F	F	W	W	W	W	W	W	W	W	W	W	W	W	W	F	F
Height (mm)	600	600	600	600	760	760	850	850	710	710	710	710	760	710	710	710	710	760	760	760	760	850	850
Width (mm)	390	390	390	390	440	440	400	400	400	400	400	400	440	400	400	400	400	440	440	440	440	600	600
Depth (mm)	270	270	270	270	360	360	600	600	330	330	330	330	360	330	330	330	330	360	360	360	360	600	600
Natural gas SEDBUK (%)	90.1	90.1	90.1	90.2	90.3	90.2	90.5	90.3	90.1	90.1	90.1	90.2	90.3	90.1	90.1	90.1	90.1	90.1	90.1	90.2	90.2	90.4	90.4
LPG SEDBUK (%)	91.4	91.4	91.9	92.0	92.3	92.0	91.9	91.6	91.4	91.4	91.4	92.0	92.3	91.9	91.9	91.9	91.9	92.0	92.0	91.9	92.2	92.2	92.2
Domestic hot water flow rate @ 35°C ΔT*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.8	11.4	10.2	12.3	12.3	14.3	16.4	17.2	20	25
Central heating output (kW)	4.0 – 12.0	5.0 – 15.0	6.0 – 18.0	8.0 – 24.0	7.7 – 30.0	9.4 – 40.8	7.7 – 30.0	9.6 – 40.8	3.0 – 12.0	5.0 – 15.0	6.0 – 18.0	7.2 – 24.0	7.7 – 30.0	7.2 – 24.0	7.2 – 24.0	7.2 – 24.0	7.2 – 24.0	7.7 – 30.0	7.7 – 30.0	9.4 – 30.0	9.4 – 30.0	7.4 – 29.2	9.7 – 30.6
Domestic hot water control									•	•	•	•	•			•	•	•	•	•	•	•	•
Condenses in domestic hot water & central heating modes																		•	•	•	•	•	•
Max horizontal flue length (m) (100mm dia)	4.6	4.6	4.6	4.6	7.9	6.0	4.0	4.0	4.6	4.6	4.6	4.6	7.9	4.6	4.6	4.6	4.6	7.9	7.0	6.0	6.0	4.0	4.0
Max horizontal flue length (m) (125mm dia)	13.0	13.0	13.0	13.0	18.5	12.5	13.0	13.0	13.0	13.0	13.0	13.0	18.5	13.0	13.0	13.0	13.0	18.5	16.0	12.5	12.0	13.0	13.0
Max vertical flue length (m) (100mm dia)	6.4	6.4	6.4	6.4	9.4	7.5	6.4	6.4	6.4	6.4	6.4	6.4	9.4	6.4	6.4	6.4	6.4	9.4	8.0	7.5	7.5	6.4	6.4
Max vertical flue length (m) (125mm dia)	15.0	15.0	15.0	15.0	18.5	16.0	15.0	15.0	15.0	15.0	15.0	15.0	18.5	15.0	15.0	15.0	15.0	18.5	16.0	16.0	16.0	15.0	15.0
Fault finding diagnostics	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Integral frost thermostat	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Integral pressure gauge									•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Modulating pump													•					•	•	•	•	•	•

* Boiler flow rates limited by regulators to give 40°C ΔT. Minimum operating pressure required

This matrix is for a guidance only, full technical details are available within the Technical and Specification brochures for these products and should be consulted prior to selection with the assistance of a qualified Gas Safe installer.



We're always on hand to help, whether you're just starting to think about buying a Worcester boiler or you've owned one for years. We have over 300 Service Engineers to ensure our products deliver energy-saving performance year after year. We are placed in the top 10 of the top 50 UK call centres.

Our experienced and award-winning technical support team is also available on the phone or via email to offer help with any aspect of your Worcester boiler. They can help with choosing the right controls, as well as advising on combining your boiler with environmentally-friendly, cost-saving renewable systems like solar water heating.

Of course, the advice of a qualified installer is also essential, and we can also help you find a professional installer who's local to you. Just call **0844 892 3366** or visit **www.worcester-bosch.co.uk/findaninstaller**. You will also need to contact a professional installer in order to purchase our products.

Guarantees for extra peace of mind
To give you even more reassurance, we offer comprehensive guarantees on all our products. To find out more, visit **www.worcester-bosch.co.uk/guarantee**

What is Gas Safe Register?
Gas Safe Register is the hallmark for gas safety in the United Kingdom. By law, only Gas Safe registered engineers should carry out work on gas appliances or installations in your home. To make sure that your gas-fired boiler is installed, maintained and serviced safely you must employ a Gas Safe registered engineer to carry out the work.



Even more ways of providing heating and hot water comfort to you.

Greenskies solar thermal water heating

Complementing Greenstar regular and system boilers, Greenskies solar thermal water heating can provide up to 60%* of your annual hot water needs. If you'd like to reduce the amount of fossil fuels that you depend on to heat the water in your home and, at the same time, significantly lower your carbon dioxide emissions, why not consider installing a Worcester Greenskies solar thermal water heating system?

Greenskies solar water heating panels



Greenstore ground source heat pumps

Greenstore ground source heat pumps can meet your total heating and hot water needs by using the latent heat stored in the earth. Ground source heat pumps are perfect for use with under floor heating systems and can also be used with appropriately sized radiators.

Greensource air to water and air to air heat pumps

These clever devices are used extensively in Scandinavia and use latent energy stored in the air to provide heating and hot water for the home.

Greensource Air to water heat pump (external unit)



Greenstar oil-fired boilers

For homes that are not connected to mains gas, Worcester also manufactures a range of high-efficiency oil-fired Greenstar boilers, that provide the same cost saving benefits.

Information whenever you need it

To help you make the most of your heating and hot water system, Worcester has produced an informative 'handy hints' guide. To obtain a copy or to find out more about Worcester's full range of heating and hot water solutions, visit www.worcester-bosch.co.uk or call our literature line on 0844 892 9800.



We're as committed to the environment as we are to our customers.

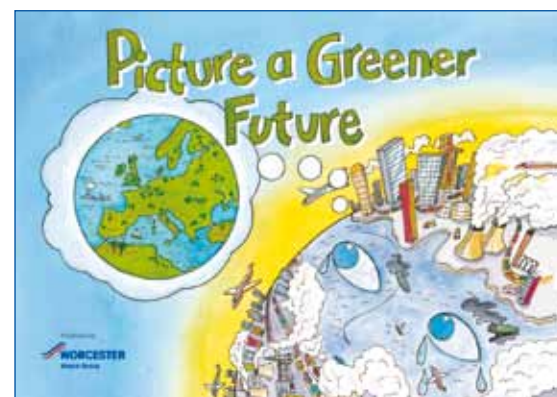


Whether it's energy efficient boilers, or sustainable heating solutions, Worcester's commitment to the environment goes back many years.

The greatest contribution we make is by ensuring every one of our products is as fuel efficient as technology will allow, or uses completely sustainable fuel like solar energy.

But that's not all. In 2000, The Environment 2020 Awards were initiated to celebrate and promote activities dedicated to conserving the environment for future generations. The initiative includes an annual children's art competition. For more information visit our website.

Worcester is also behind a forward-looking scheme to educate younger generations on environmental issues. A free book, 'Picture a Greener Future', is available from our website at www.worcester-bosch.co.uk/greenerfuture and, through a fun story, shows how we can all reduce our energy consumption and shrink our carbon footprint.



Worcester has also accomplished its environmental commitment by reaching 100% recyclability for all its products, thereby achieving its zero waste to landfill objective.

In addition, a partnership has been set up with a Swansea-based company which now transforms Worcester's previously non-recyclable waste, including some plastics, into an eco-friendly concrete replacement which is now used in housing, meaning that Worcester's range of Greenstar gas-fired boilers are now 100% recyclable.

Making a difference

Since 1996, the combined energy savings of all the products we've sold have helped reduce our company's carbon footprint by 20%, making a significant difference to the UK's impact on the environment.

As domestic boilers currently account for 21%* of the UK's total CO₂ emissions, the fact that a Worcester condensing boiler also delivers dramatically reduced emissions of both CO₂ and NO_x (Nitrogen Oxide) helps in the battle against climate change. All Worcester Greenstar boilers are within UK Class 5 – the lowest of the 5 categories – for NO_x emissions.

Useful numbers

Consumer Technical Helpline (Pre & Post Sales)

Tel: 0844 892 3366

Fax: 01905 752741

Renewables Technical Helpline

Email: renewable.energy@uk.bosch.com

or telephone 0844 892 4010

Literature

Email: literature@uk.bosch.com

or download instantly from our website

or telephone 0844 892 9800

Customer Service

Engineer Appointments

Email: appointment.worcester@uk.bosch.com

or telephone 0844 892 3000

Enquiries

Email: service.mailbox@uk.bosch.com

or telephone 0844 892 3000

Guarantee Registration

To register your Worcester guarantee,

please visit our website or

telephone 0844 892 2552

Calls to the listed 0844 numbers are charged at up to 3 pence per minute from BT land lines.
Calls from mobiles and some other networks may vary. Calls to and from Bosch Thermotechnology Ltd
may be recorded for training and quality assurance purposes.

www.worcester-bosch.co.uk



In partnership with



energy saving trust™



Worcester, Bosch Group is a brand name of Bosch Thermotechnology Ltd.

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Part No. 8 716 109 642 G 09/12



BBT2871



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